

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A modulating apparatus of an on-channel repeater which receives ~~the a~~ signal on one channel and distributes the signal on the same channel, comprising:

- a baseband signal configuring means for configuring a baseband signal by combining an input field and a segment sync signal;
- a pilot adding means for adding a pilot signal to the baseband signal;
- an up-sampling means for up-sampling the baseband signal with the pilot signal added thereto;
- a filtering means for filtering the up-sampled baseband signal with the pilot signal added thereto, wherein the filtering means generates an in-phase (I) signal and a quadrature (Q) signal and performs filtration; and
- a first digital-to-analog converting means for converting the filtered in-phase (I) signal into a first analog signal;
- a second digital-to-analog converting means for converting the filtered quadrature (Q) signal into a second analog signal;
- a first radio frequency (RF) up-converting means for directly up-converting the filtered first analog signal into an RF signal into a first RF signal;
- a second radio frequency (RF) up-converting means for directly up-converting the second analog signal into a second RF signal;
- an adding means for adding the up-converted first and second analog signals.

2.-5. (Cancelled)

6. (Original) The modulating apparatus as recited in claim 1 or 2, wherein the filtering means includes an Equi-Ripple (ER) filter and uses a window method.

7. (Original) The modulating apparatus as recited in claim 1 or 2, wherein the filtering means includes an ER filter.

8. (Original) The modulating apparatus as recited in claim 1 or 2, wherein the filtering means includes a square root raised cosine (SRRC) filter and uses a window method.

9. (Currently Amended) A modulating method of an on-channel repeater which receives ~~the a~~ signal on one channel and distributes the signal on the same channel, comprising:

baseband signal configuring step of configuring a baseband signal by combining an input field and a segment sync signal;

a pilot adding step of adding a pilot signal to the baseband signal;

an up-sampling step of up-sampling the baseband signal with the pilot signal added thereto;

a filtering step of filtering the up-sampled baseband signal with the pilot signal added thereto, wherein said filtering generates an in-phase (I) signal and a quadrature (Q) signal and performs filtration; and

a first digital-to-analog converting step converting the filtered in-phase (I) signal into a first analog signal;

a second digital-to-analog converting step converting the filtered quadrature (Q) signal into a second analog signal;

a first radio frequency (RF) up-converting step directly up-converting the first analog signal into a first RF signal;

a second radio frequency (RF) up-converting step directly up-converting the second analog signal into a second RF signal;

adding the up-converted first and second analog signals, a radio frequency (RF) up-converting step of up-converting the filtered signal into an RF signal.

10.-13. (Cancelled)

14. (Original) The modulating method as recited in claim 9 or 10, wherein, the filtering step, an Equi-Ripple (ER) filter and a window method are used.

15. (Original) The modulating method as recited in claim 9 or 10, wherein, the filtering step, an ER filter is used.

16. (Original) The modulating method as recited in claim 9 or 10, wherein, the filtering step, a square root raised cosine (SRRC) filter and a window method are used.